

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 497780 CJE	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No.  <b>PCT/NZ2003/000270</b>	International Filing Date (day/month/year)  10 December 2003	Priority Date (day/month/year)  10 December 2002
International Patent Classification (IPC) or national classification and IPC  <b>Int. Cl. <sup>7</sup> C07H 1/08; C12P 19/24, 19/14, 19/02, 7/58; A23L 1/09</b>		
Applicant  <b>FONTERRA CO-OPERATIVE GROUP LIMITED et al</b>		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 3 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p style="padding-left: 40px;">These annexes consist of a total of sheet(s).</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand 2 July 2004	Date of completion of the report 19 October 2004
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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/NZ2003/000270

**I. Basis of the report****1. With regard to the elements of the international application:\***

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the claims, pages , as originally filed,  
pages , as amended (together with any statement) under Article 19,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the sequence listing part of the description:  
pages , as originally filed  
pages , filed with the demand  
pages , received on with the letter of

**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:**

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

**4. ☐ The amendments have resulted in the cancellation of:**

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

**5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\***

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

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International application No.

PCT/NZ2003/000270

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims 1 to 35	YES
	Claims	NO
Inventive step (IS)	Claims 1 to 35	YES
	Claims	NO
Industrial applicability (IA)	Claims 1 to 35	YES
	Claims	NO

**2. Citations and explanations (Rule 70.7)**

The following documents are referred to in this report:

D1 WO 1999/053088

D2 US 3852496

D3 GB 925380

D1 discloses the preparation of galactose and gluconic acid from oligosaccharides such as lactose by hydrolysis and subsequent oxidation. The galactose may be isolated from the product.

D2 discloses the preparation of a product containing galactose and fructose from lactose, comprising hydrolysis of lactose to give galactose and glucose, and isomerisation of the glucose to fructose.

D3 discloses the preparation of galactose by hydrolysis of lactose and isolation of the galactose by crystallisation.

None of these citations discloses the process of the present application, and the claims are therefore novel. Moreover the applicant has submitted that the compositions prepared by the present process, as well as the series of synthetic steps and order in which they are performed, provide unexpected advantages over the prior art. Accordingly, inventive step may also be acknowledged.

The present claims are considered industrially applicable in view of the purported uses of the compositions.